

The Impact of Advertising on Statin Drug Adherence and Attaining LDL Cholesterol Goals

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Objective of the Paper

To estimate the (average) impact of direct-to-consumer (DTC) on

1. the adherence to a lipid-lowering therapy (statin), and
 2. the success of achieving the target LDL level,
- using a patient-level data merged with national and local advertising information provided by the Competitive Media Reporting, Inc.

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- using a patient-level data merged with national and local advertising information provided by the Competitive Media Reporting, Inc.

In other words, we ask “what would have happened to the patients’ adherence to the statin treatment and the success of achieving the target LDL levels had they not lived in the ‘heavy DCT markets’”?

Comments (continue)

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- This is one of the few papers in the literature that examine the effect of DTC patients' health, and it attempts to look at a very important issue.
- The authors have a rich, patient-level data set that includes all of the patient records from 88 primary care practices in 33 states across the U.S. between 1998 to 2004.
- The authors carefully point out several important issues:
 - how the dosage affect the outcome,
 - how they follow the guidelines from the National Cholesterol Education Program on the Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (ATP III) for their empirical work.
 - Patient population for elevated LDL with statins may vary over time.

Four Major Issues

1. Selection issue and detailing (Direct-to-Physician)
2. Temporal composition of the sample
 - Identification issue
 - Who exactly are the patients being served as the comparison group?
3. Spatial and temporal variations of advertising expenditure.
4. Patient non-compliance issue

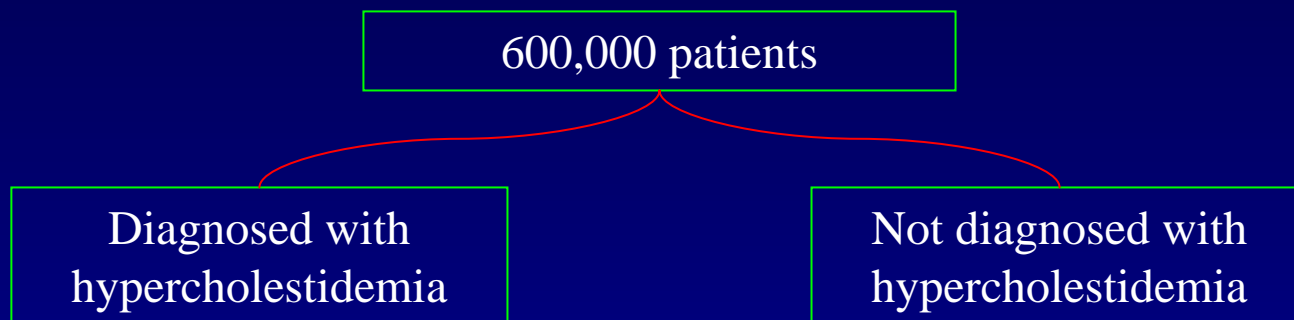
1. Selection issue and detailing (Direct-to-Physician)

Total number of patients in the data base.

600,000 patients

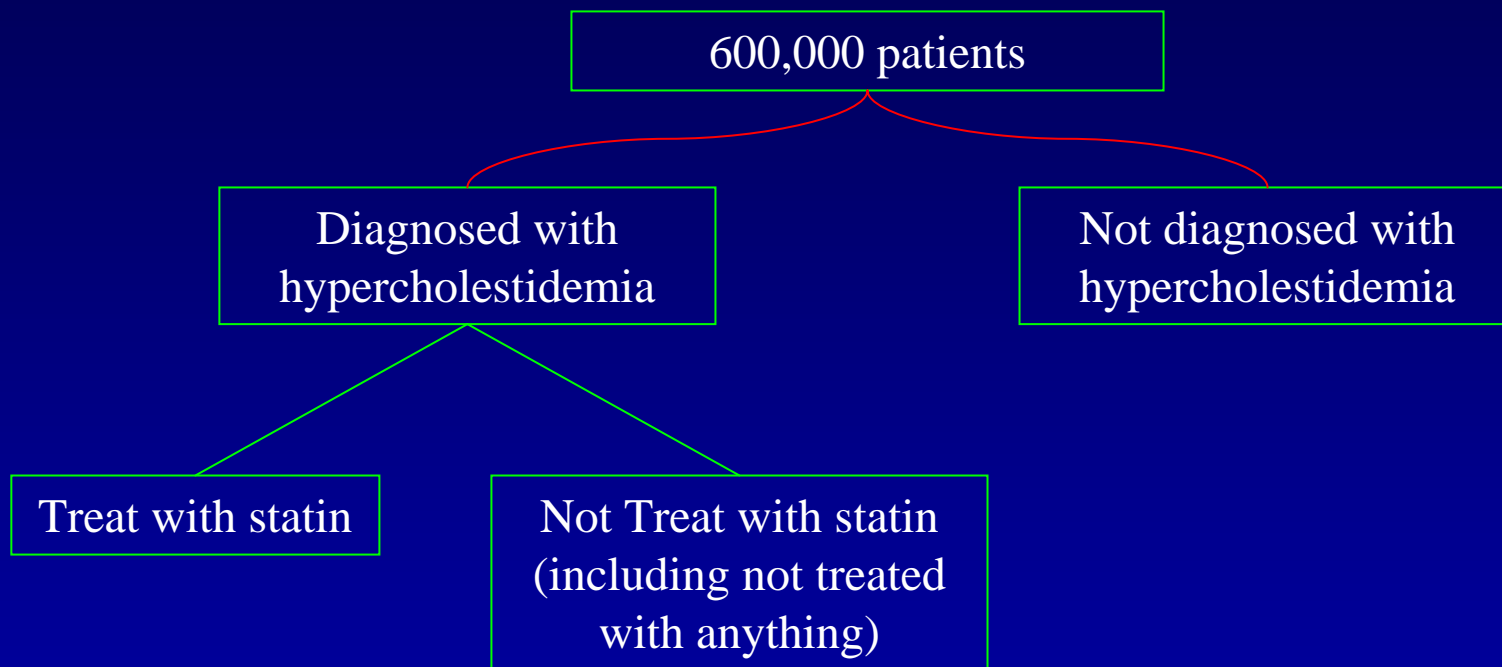
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Possible diagnostic outcomes:



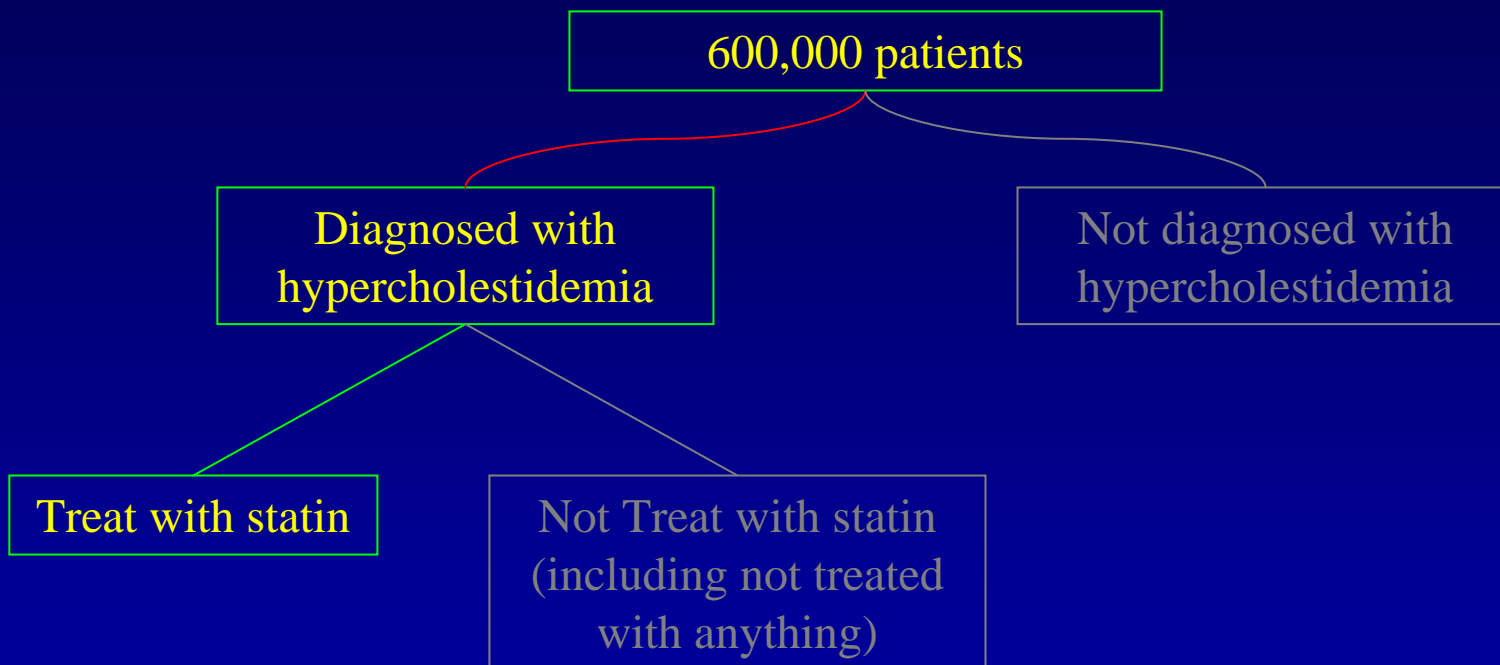
1. Selection issue and detailing (Direct-to-Physician)

Decision for the types of treatment.



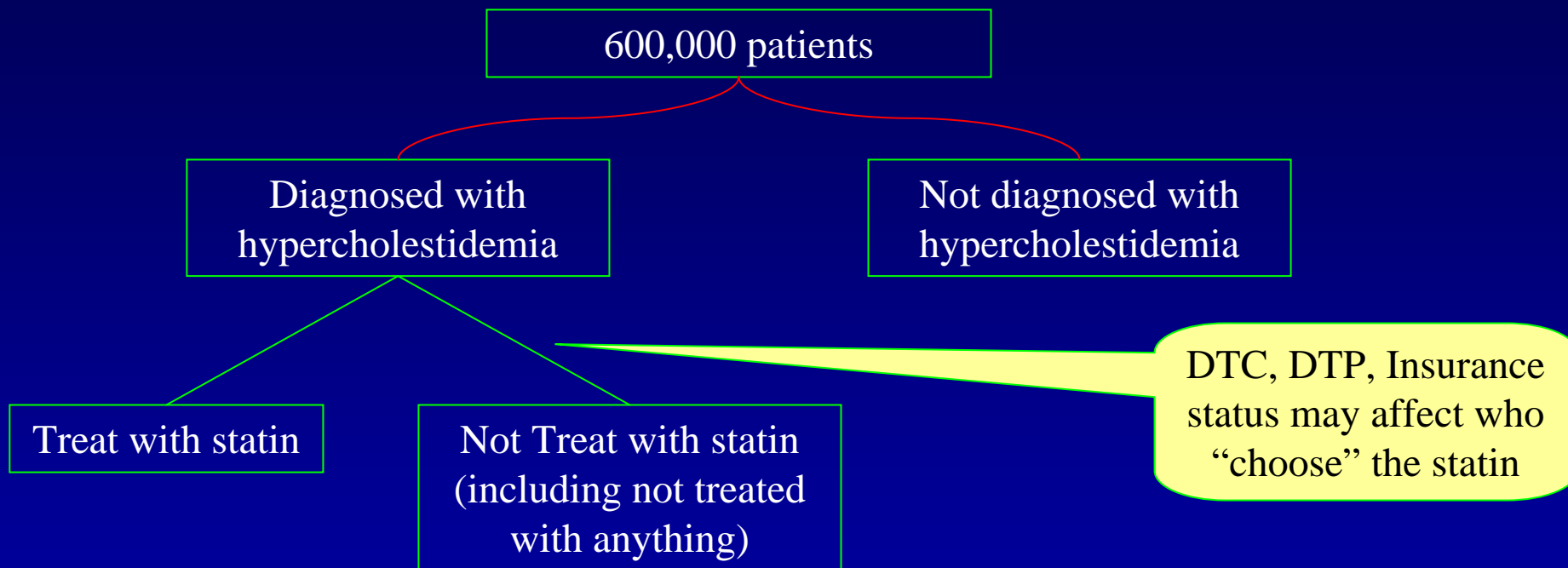
1. Selection issue and detailing (Direct-to-Physician)

The chosen sample



1. Selection issue and detailing (Direct-to-Physician)

Decision for the types of treatment.



2. Composition of the Sample at Each Point in Time

- **Table 3** (bottom) indicates that there is a large increase in number of people entering the sample over the period between 1998 and 2004.
 - Also, **figure 1** documents a steady decrease of the average measure LDL levels over the same period.
- What are the characteristics of the sub-samples that entered the study at different point in time?
- The authors are aware of the changing composition issue and have control for both the baseline LDL level and year effect.
- Nevertheless, what is the implication of this feature on the (implicit) comparison group?

3. Definition of “Heavy” Ad. Expenditure Area

- Measure of DTC intensity, which is the key variable of interest:
“We created an indicator variable which equaled one if the beginning of the patient’s statin use occurred during a month when DTC was in the supper 25th percentile of expenditure.” (pp. 13)
- This definition is very crucial for your results.

3. Definition of “Heavy” Ad. Expenditure Area

88 markets and $7 \times 12 = 84$ months

Market 1 t = 1	Market 1 t = 2	...	Market 1 t = 84
Market 2 t = 1	Market 2 t = 2	...	Market 2 t = 84
⋮	⋮	⋮	⋮
Market 88 t = 1	Market 88 t = 2	...	Market 88 t = 84

3. Definition of “Heavy” Ad. Expenditure Area

Clarifying questions:

1. Does it mean that you lump the expenditure across all markets and across all seven years, create one distribution, and then designate the observations at the top 25 percentile of the distribution as “heavy DTC markets”?
2. If so, have you looked at how the markets are distributed in this “grant” distribution?
 - Related questions:
 1. Which are these 88 markets?
 2. Another related question: Have you normalized the expenditure or denominated in a particular year?
 3. How do you take into account the price-level differences across markets?

3. Definition of “Heavy” Ad. Expenditure Area

Another question related to the “treatment” definition:

Have you considered the possibility that the sample individuals were not only affected by the DTC in the month when the patients began using statin? The patients might be affected by the DTC in the previous several months before seeking medical treatment?

4. Patient Non-Compliance Issue & Contaminating Treatment

- The data includes prescription, but does it ask whether or not the patients comply with the prescribed treatment?
 - Have the people been taking the drugs?
- Have the people been using other treatments as well?
- The authors are aware of this issue, but it is unclear (to me) the way the authors define one of their key dependent variables: =1 if the treatment spell lasts for at least 6 months.
 - “Consequently, before we consider a spell to have ended, we require that the patient run out of daily doses for at least 90 days.”
 - Why 90 days?

1. Selection issue and detailing (Direct-to-Physician)

Other types of treatment.

